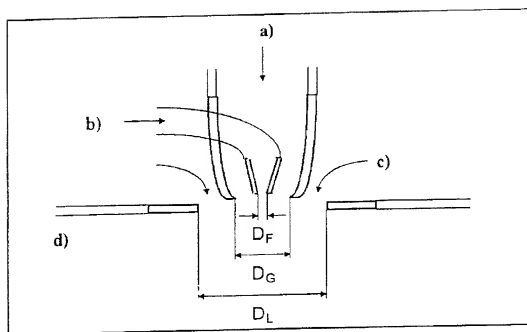


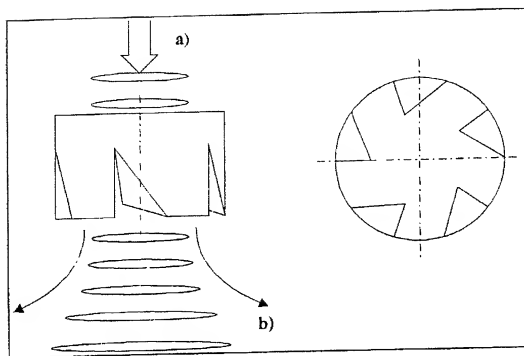
**Figure 1** Schematic diagram of the PCD with the main apparatus components

- a) natural gas
- b) blower
- c) burner
- d) compressed air
- e) ambient air
- f) exhaust blower
- g) exhaust air
- h) cooling water (in/out)
- i) filter
- j) cyclone
- k) feed liquid
- l) feed pump
- m) drying chamber
- n) product discharge



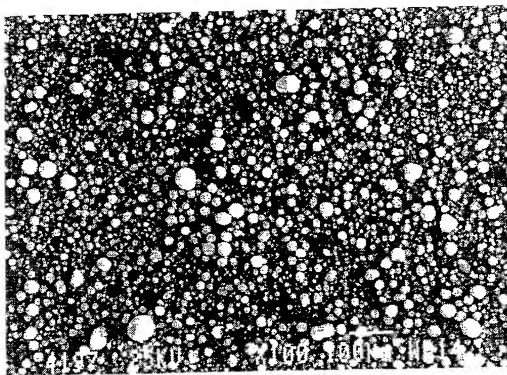
**Figure 2** Arrangement of the gas nozzle, the liquid nozzle and the air ring in an experimental apparatus

- a) combustion gas
- b) suspension
- c) ambient air
- d) drying chamber

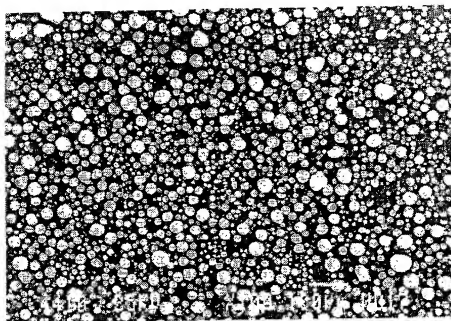


**Figure 3** In-principle sketch of the swirl-inducing element

- a) hot gas stream
- b) jets widening on entry into the drying chamber

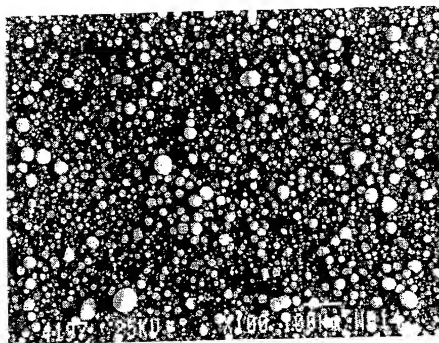


**Figure 4** Scanning electron micrograph of precipitated silica dried in the pulse combustion dryer

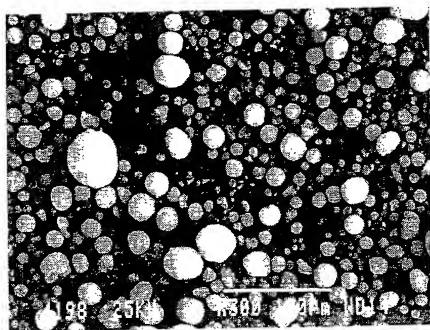


**Figure 5** Scanning electron micrograph of pyrogenic silica dried in the pulse combustion dryer

10057841.02002

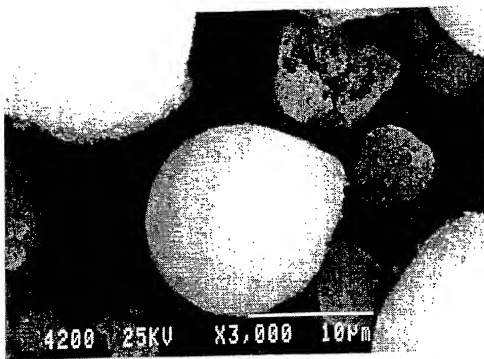


**Figure 6** Scanning electron micrograph of precipitated silica dried in the pulse combustion dryer

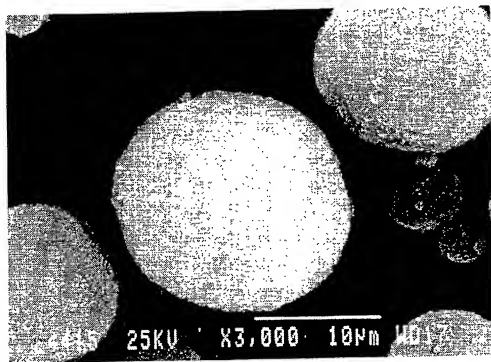


**Figure 7** Scanning electron micrograph of precipitated silica dried in the pulse combustion dryer

10057841.020002

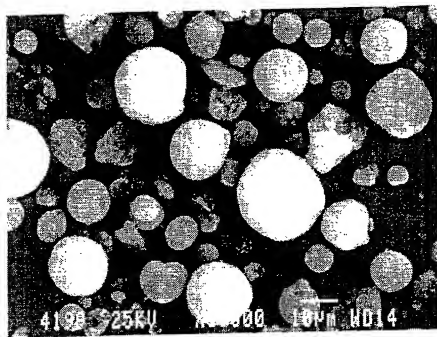


**Figure 8** Scanning electron micrograph of precipitated silica dried in the pulse combustion dryer



**Figure 9** Scanning electron micrograph of pyrogenic silica dried in the pulse combustion dryer

10067841.020002



**Figure 10** Scanning electron micrograph of precipitated silica dried in the pulse combustion dryer

10567841.02032

## Determination of the wk coefficient

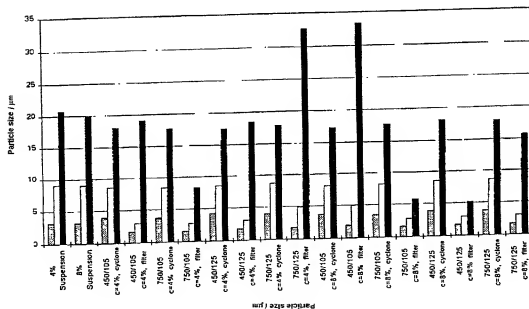
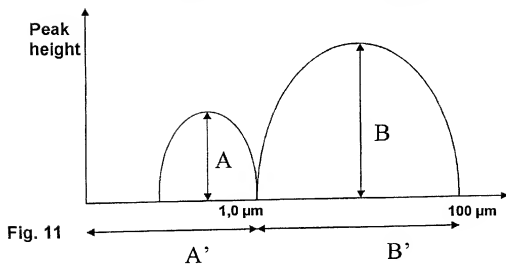


Figure 12